

Comparative table of rainfall for each geographical division.

Divisions.	Relative area.	Number of available averages.	Rainfall.	
			Average for May.	Current for May, 1901.
Northeastern division.....	25	18	12.58	5.46
Northern and sub-central division....	22	50	7.57	5.00
Western-central division.....	26	36	14.03	10.06
Southern division.....	27	35	8.66	4.01
General means.....			10.71	6.13

Evidently the rainfall for May, like that for April, was seriously deficient.

In taking the average rainfall Mr. Hall uses only those stations for which he has several years of observation, so that the column of averages represents fairly well the normal rainfall for each division, while the column for the current month represents the average rainfall at those same stations. The relative areas of the division is very nearly the same and is given in the following table as expressed in percentages of the total area of Jamaica. The number of rainfall stations utilized in each area varies slightly from month to month, according as returns have come in promptly or not, but will not differ greatly from the numbers in the second column of the table.

RECENT PAPERS BEARING ON METEOROLOGY.

W. F. R. PHILLIPS, in charge of Library, etc.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau:

- Terrestrial Magnetism and Atmospheric Electricity.* Baltimore. Vol. 6.
Exner, Franz. Summary of the results of Recent Investigations in Atmospheric Electricity. (Concluded.) P. 1.
Science. New York. N. S. Vol. 13.
 — Syntonic Wireless Telegraphy. P. 874.
American Journal of Science. New Haven. Vol. 11.
Langley, S. P. The New Spectrum. P. 403.
Annales de Géographie. Paris. 10me année.
Voeikov, A. De l'influence de l'homme sur la terre. (Second article.) P. 193.
Ciel et Terre. Bruxelles. 22me année.
Bieler, S. Influence du climat sur le développement des races bovines. Pp. 165-173.
Wolfer, A. Les centres principaux de l'activité solaire. P. 133.
L., v. D. A propos du tir contre la grêle. P. 140.
Scientific American. New York. Vol. 84.
 — Wireless Telegraphy for the Prevention of Shipping Disasters. P. 355.
 — A new Flying Machine. P. 357.
Scientific American Supplement. New York. Vol. 51.
Marconi, G. Syntonic Wireless Telegraphy. Pp. 21269 and 21291-21293.

- Deutsche Mechaniker Zeitung.* Berlin. 1901.
Wiebe, H. F. Bericht über die Thermometer und Barometer auf der Pariser Weltausstellung. P. 81.
Baumann, Th. Versuch, die Höhe der Atmosphäre auf geometrischem Wege zu finden. P. 96.
Zeitschrift für Instrumentenkunde. Berlin. Vol. 21.
Hecker, O. Untersuchung der Konstanz von Siedethermometern aus dem Glasse. Vol. 59. III. P. 133.
Nature. London. Vol. 64.
 — Climate and Time and Mars. Pp. 106-107.
Lockyer, Wm. J. S. A long Period Sunspot Variation. Pp. 196-197.
Shaw, W. N. Hailstorm Artillery. Pp. 159-161.
Philosophical Magazine. London. Vol. 1. 6th Series.
Townsend, J. S. Conductivity produced in Hydrogen and Carbonic Acid Gas by the Motion of Negatively Charged Ions. Pp. 630-642.
Annuaire, Société Météorologique de France. Tours. 49me année.
Decheverens, M. Sur la cause des variations accidentelles de la température de l'air. Pp. 103-105.
Comptes Rendus. Paris. Tome 132.
Baume-Pluvinel, A. de la. Sur le spectre de la couronne solaire photographié à Elche (Espagne) pendant l'éclipse totale de Soleil du 28 mai 1900. Pp. 1259-1264.
Marey, —. Changements de direction et de vitesse d'un courant d'air qui rencontre des corps de formes diverses. Pp. 1291-1296.
Gonnessait, F. Six mois d'observations météorologiques à Quito. P. 1444.
Engineering News. New York. Vol. 45.
Brown, L. W. Protection of Cities in the Mississippi Valley against Encroachments of Rivers. Pp. 427-429.
La Nature. Paris. 29me année.
Jullien, O. Près du Mont-blanc; le climat de Bonneville et des environs. Pp. 26-27.
L'Aérophile. Paris. 9me Année.
Farman, M. 3,000 kilomètres en ballon. Pp. 109-119.
Himmel und Erde. Berlin. 13 Jahrg.
Boernstein, R. Das Wetterschiesen. Pp. 402-408.
Jachmann, —. Die Taifune in den ostasiatischen Gewässern. Pp. 419-424.
Popular Science Monthly. New York. Vol. 69.
Willis, Bailey. Climate and Carbonic Acid. Pp. 242-256.
Symons's Meteorological Magazine. London. Vol. 36.
 — International Investigation of the Sea and Air. Pp. 74-76.
 — Proposed Observations on Dew-Ponds. Pp. 76-77.
Mohn, H. The Norwegian Rainfall Service. Pp. 80-81.
Gaea. Leipzig. 37 Jahrg.
 — Die neueren Anschauungen über die Ursachen der Luftelektrizität. (Schluss). Pp. 406-410.
 — Über Kugelblitze. Pp. 410-417.
 — Über Polar-Forschungen. Pp. 417-420.
 — Die internationale Ballonfahrt am 19 April, 1901. Pp. 432-433.
Meteorologische Zeitschrift. Band 18. Wien.
Kremser, V. Neunte Allgemeine Versammlung der Deutschen Meteorologischen Gesellschaft zu Stuttgart am 1-3 April, 1901. Pp. 193-211.
Hann, J. Einige Ergebnisse der Temperaturbeobachtungen auf dem Strassburger Münsterthurm. Pp. 211-216.
Heintz, E. Ueber Niederschlagsschwankungen in den Flussgebieten der Wolga, des Dnieper und des Don während der Periode 1861-1898. Pp. 216-223.
Maurer, J. Frank Very's Experimentaluntersuchung über die atmosphärische Strahlung. Pp. 223-230.
Prohaska, K. Rother Schnee, Schlammregen und Gewitter am 11 März 1901 in den österreichischen Alpenprovinzen. Pp. 231-234.
 — Staubfall in der Schweiz und Ober-Italien. P. 234.
Czermak, P. und Jesser. Staubfall in Tirol. P. 234.
 — Staubfall vom 6-7 März, 1893. P. 236.
 — Der letzte Blutregen. P. 236.
 — Der Blutregen in Sicilien. P. 237.
Hapke, L. Wüstenstaub in Bremen. P. 237.
 — Der Staubfall in Tunis. P. 238.
 — Berichtigung. P. 238.

NOTES BY THE EDITOR.

THE EFFECT OF THE MOON ON VEGETATION.

In a letter received some time since from the editor of the Rural New Yorker, Mr. H. W. Collingwood, he states that there has been quite a discussion lately as to whether there

are any accurate experiments regarding the influence of the moon upon vegetation. He desires to know of any records of experiments on this point, and also any relative to the effect of the changes of the moon on the weather. "So many farmers insist that the moon changes their crops in one way

or the other that I would like if possible to show them that this is impossible."

The experiments above referred to belong to the agricultural experiment stations and not to the Weather Bureau, since the latter can only make observations on meteorological phenomena. The atmosphere is too large to permit of making experiments, properly so called, with it. The acting director of the office of experiment stations states that he "knows of no experiments bearing directly upon the question of the effect of the moon upon vegetation."

We have to do with a belief that has come down to us from prehistoric times, one that began before accurate observations were recorded, and that may have originated like the myths of mythology, like the practise of "medicine men" and "fakirs," like the Arabian Nights, or the tales of ghosts and banshees. The general growth of a myth is well illustrated in Fiske's *Myths and Myth Makers*.

We quote from a few of the proverbs relating to the influence of the moon upon vegetation, as handed down to us through folk-lore. In some communities these sayings still have an influence in the agricultural industries notwithstanding their apparent absurdity:

Go plant the bean when the moon is light,
And you will find that this is right;
Plant the potatoes when the moon is dark,
And to this line you will hark;
But if you vary from this rule,
You will find you are a fool;
If you follow this rule to the end
You will always have money to spend.

Dunwoody, Weather Proverbs, p. 59.

Plant garden beans when the sign is in the scale they will hang full.—*Tusser, Five Hundred Points of Husbandry.*

Sow peason and beans in the wane of the moone,
Who soweth them sooner, he soweth too soone;
That they with the planet may rest and rise,
And flourish with bearing most plentiful wise.

Werenfels, Dissertation upon Superstition
(transl. Lond., 1748), p. 6.

He (the farmer) will not commit his seed to the earth when the soil, but when the moon, requires it. He will have his hair cut when the moon is either in Leo, that his locks may stare like a lion's shag, or in Aries, that they may curl like a ram's horn. Whatever he would have to grow, he sets about it when she is on her increase, but what he would have made less, he chooses her wane.—*Werenfels, Dissertation upon Superstition* (transl. Lond., 1748), p. 6.

Seeds of all kinds should always be sown during the moon's increase, that is, between the time of new and full moon. Destroy weeds, dig, harrow, plow, and hoe from the full until the new, that is, during the moon's decrease. As the moon increases in light, the most suitable sign for germination has next been selected. The best spring signs are undoubtedly Taurus, Cancer, and Libra; the moon must therefore be in one of these, and it is also best that one of these be rising on the eastern horizon. Cancer and Libra are preferred to Taurus.—*Walter H. Smith, in Vennor's Almanac, 1884, p. 29.*

Here are three different sayings as to the phase of the moon during which to plant:

1, a bright moon for beans and a dark moon for potatoes; 2, an increasing moon for whatever we would have to grow well; 3, a waning moon for peas and beans. To add to our confusion, Mr. Smith, who is an advocate of the increasing moon theory, also tells us that we must wait until the moon is in a favorable sign of the zodiac, with another favorable sign rising in the east. He kindly came to the assistance of those who can not make the computations and selected, for the year 1884, the days and hours on which they might plant their seed. There were two favorable days in April, five in May, and three in June, and about three favorable hours on each day.

In spite of the fact that there are therefore only one or two full working days in a whole month when the moon and the signs are favorable for planting, our American farmers wisely busy themselves with seed sowing when the soil (not when the moon) allows it, and in good time they gather in

the crop. Evidently the American farmers, as a class, doubt the influence of the moon, but do believe in the soil, temperature, rainfall, manure, and laborious cultivation.—*H. H. K.*

PUBLICATIONS OF THE UNITED STATES WEATHER BUREAU.

In a letter dated Vienna, April 30, 1901, Prof. Julius Hann suggests that it would be desirable if European meteorologists could be more easily informed as to what bulletins the Weather Bureau has published.

Since the organization of the Weather Bureau on a civilian basis under the Department of Agriculture on July 1, 1891, the bulletins have been designated by letters of the alphabet when in quarto form, and by numbers when in octavo form. The latest publications under these classifications are Bulletins H and No. 29, respectively. Since January, 1895, all the publications have been numbered chronologically in addition to their special serial designations; the latest publication, the current number of the MONTHLY WEATHER REVIEW, has the chronological number 246.

Dr. W. F. R. Phillips, in charge of the Weather Bureau Library, has prepared the following list of the bulletins and other more important publications of the Weather Bureau, exclusive of author's separates and periodic publications. It probably includes all of interest to scientists and the public generally. Hereafter a list of recent publications will appear monthly in the pages of the REVIEW.

Most of these publications may be purchased for a nominal sum, but they are generally intended for free distribution among the meteorologists and scientific libraries of this and other countries. Those marked with a star (*) are now out of print, but occasionally a copy is returned to the Bureau. Applications for publications should be addressed to "The Chief of the U. S. Weather Bureau."

LIST OF THE MORE IMPORTANT BULLETINS, AND OTHER PUBLICATIONS OF THE UNITED STATES WEATHER BUREAU.

- Bulletin A. Summary of international meteorological observations. H. H. C. Dunwoody. (19 by 24 in.) 20 pp. 61 charts. 1893.
- * Bulletin B. Surface currents of the Great Lakes, 1892-1894, inclusive. M. W. Harrington. (19 by 24 in.) 14 pp. 6 charts. 1894.
- Bulletin C. Rainfall and snow of the United States. M. W. Harrington. 4to. 80 pp. Atlas (19 by 24 in). 23 charts. 1894.
- Bulletin D. Rainfall of the United States. A. J. Henry. 4to. 58 pp. 11 charts. 1897.
- Bulletin E. Floods in the Mississippi River. Park Morrill. 4to. 77 pp. 59 plates. 1897.
- Bulletin F. Report on the kite observations of 1898. H. C. Frankenfield. 4to. 71 pp. 6 plates. 4 charts. 1899.
- Bulletin G. Atmospheric radiation. F. W. Very. 4to. 130 pp. 1900.
- Bulletin H. West Indian hurricanes. E. B. Garriott. 4to. 69 pp. 7 charts. 1900.
- * Bulletin No. 1. Climate of Death Valley, Cal. M. W. Harrington. 8vo. 50 pp. 1892.
- * Bulletin No. 2. New method for discussion of magnetic observations. F. H. Bigelow. 8vo. 41 pp. 1892.
- * Bulletin No. 3. Relations of soil to climate. E. W. Hilgard. 8vo. 59 pp. 1892.
- * Bulletin No. 4. Soils and soil moisture and crop distribution. Milton Whitney. 8vo. 90 pp. 1892.
- * Bulletin No. 5. Fluctuations and movements of ground water at Whitewater, Wis. Franklin H. King. 8vo. 75 pp. 1892.